

# Renewable Heat Incentive

Call for evidence: Biopropane

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The consultation and Impact Assessment can be found on DECC's website:  
[www.decc.gov.uk/rhi](http://www.decc.gov.uk/rhi)

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# General information

## Purpose of this consultation

This is a call for evidence to obtain information on the importation of biopropane for use in the UK.

**Issued:** 20 September 2012

**Respond by:** 2 November 2012

## Enquiries to:

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Call for Evidence Reference: **URN:12D/358** - Biopropane

## Territorial extent:

This consultation applies to England, Scotland and Wales.

## How to respond:

**The closing date for responses is: 2 November 2012**

Please send responses by email to: [rhi@decc.gsi.gov.uk](mailto:rhi@decc.gsi.gov.uk). Alternatively, hard copy replies should be sent to the address above.

## Additional copies:

You may make copies of this document without seeking permission. An electronic version can be found at: [www.decc.gov.uk/rhi](http://www.decc.gov.uk/rhi)

Other versions of the document in Braille, large print or audio-cassette, including a Welsh version, are available on request via the enquiries address above.

## Confidentiality and data protection:

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

If you wish information that you provide to be treated as confidential please say so clearly in writing when you submit your response to the consultation. It would be helpful if you could

explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

## Introduction

The Renewable Heat Incentive (RHI) was launched in November 2011 with the objective of helping the UK achieve the targets set out under the Renewable Energy Directive. The scheme supports renewable heating in commercial buildings, industry, community infrastructure and district heating by providing a payment in the form of a tariff for each kilowatt hour (kWh) of renewable heat generated. Three consultations are being launched in parallel to this call for evidence: “Renewable Heat Incentive: proposals for a domestic scheme”, detailing proposals of introducing RHI support for households; “Renewable Heat Incentive: expanding the non domestic scheme”, detailing our plans for introducing support for new technologies; and “Renewable Heat Incentive: Air to Water Heat Pumps & Energy from Waste”, detailing our proposals for Air to Water Heat Pumps and Energy from Waste. These consultations are all available on the DECC website and have a closing date of 7 December<sup>1</sup>.

In addition to these consultations we will be launching a series of ‘calls for evidence’ relating to different technologies. Please note that these calls for evidence are being issued as separate documents and are being run to different timescales with different deadlines for response. This call for evidence relates to large biomass over 1MW and is open for 4 weeks, with a deadline of 18 October. Details of the other calls for evidence are available at the end of this document.

## Biopropane

Biopropane is a gas physically and chemically equivalent to fossil fuel propane which is produced via hydro-treated vegetable oil (HVO) biodiesel processing. Biomass feedstock in the form of oil or fat is reacted with hydrogen to produce biodiesel and an off-gas consisting of approximately 70% propane. This can be extracted and purified to meet common liquefied petroleum gas (LPG) standards, equivalent to the propane produced via oil and natural gas processing. Therefore, biopropane can be used directly in conventional LPG heaters, commonly used in off-gas grid homes and businesses.

Biopropane is not currently produced in the UK, although we have had discussions with interested parties proposing to import it from HVO biodiesel processing plants abroad as a means of accessing this renewable fuel. This proposal is likely to offer a cost effective method of helping to meet our renewable energy targets since, after initial set up costs for the extraction equipment, the propane is expected to be available at a similar price to fossil fuel propane and therefore a relatively low tariff would be required to incentivise its production.

However, this proposal is unlike any existing support under the RHI as the biopropane is not produced in the UK and is a by-product of an existing industrial process. The proposal may not directly promote green growth in the UK, however through creating a demand for biopropane an indigenous market may develop, potentially creating an incentive for future production in the UK.

## Question

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<sup>1</sup> [www.decc.gov.uk/rhi](http://www.decc.gov.uk/rhi)

	Do you think that we should seek to support the use of biopropane for heat in the UK? If so, please provide evidence for your answer, including the uses and costs of the fuel.
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The feedstocks for HVO biodiesel processing, and so ultimately biopropane production, are animal or plant based fat and oils. Waste and low grade fats and oils may be used provided they are available, however virgin vegetable oils such as palm oil may be more practical and cheaper to process. Therefore, there is an issue surrounding the sustainability of the feedstock source and we lack sufficient data to form a view as to whether biopropane production is a sustainable source of renewable heat. The fact that the producers of biopropane are not currently based in the UK may present an additional difficulty in ensuring the sustainability of the process.

#### Question

	Can you provide evidence of, or propose a methodology to ensure, the sustainability of the feedstocks used in biopropane production?
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The HVO process requires the feedstocks to be reacted with hydrogen. This is produced from fossil fuels and requires the use of steam, a process which also produces carbon dioxide. Furthermore, the reaction of feedstock with hydrogen produces carbon dioxide and other waste gases in addition to biopropane. We are determined that any RHI support has a positive overall impact and so it is important that we gain a full understanding of the relative benefits of biopropane compared with any environmental impacts of fossil fuel hydrogen production and greenhouse gas emissions.

#### Question

	Can you provide evidence of the environmental impacts of HVO processing?
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In order to support biopropane, we need to be confident that this is the most carbon efficient use of resources. The off gases produced from the HVO process are currently used as an industrial fuel, for instance at neighbouring power plants for electricity production. The off gases need to be extracted and purified to produce biopropane, which must then be transported for use in the UK. We need to develop a deeper understanding of the carbon impacts of this process compared to alternative uses of the off gases.

#### Question

	Can you provide evidence of the net carbon impact of the extraction, purification and
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transportation of biopropane from HVO off gases in comparison with alternative uses?
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## Other calls for evidence

### Call for Evidence- Ground Source Heat Pumps

The existing tariff for ground source heat pumps has not brought forward the number of installations of this technology we expected. Discussions with the industry have indicated that this may be due to inaccuracies in our assumptions about the costs, performance and load factors of installations. We are issuing a call for evidence to verify our current assumptions.

### Call for Evidence- Landfill Gas

Landfill gas is a declining resource and is not currently supported under the RHI. We are launching a call for evidence asking for more information on this technology.

### Call for Evidence- Large biomass (>1MW)

We have had a significant number of RHI applications under the large biomass tariff. However, anecdotal market evidence suggests that very few projects are going ahead under the current tariff with a much greater proportion than 50% being cancelled following the change to the tariff last year. Therefore, we intend to use this call for evidence to verify our assumptions about the costs and performance of large biomass boilers.

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